IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

WOLLMER ET AL. Atty. Ref.: 613-101; Confirmation No. 1945

Appl. No. 10/563,828 TC/A.U. 1618

Filed: May 8, 2006 Examiner: Samala

For: MICROEMULSIONS AND ITS USE FOR PREVENTING AIRWAY DISEASES

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

EVIDENTIARY DECLARATION UNDER 37 CFR §1.132

I, Per Wollmer, one of the joint inventors in the above-identified application, do hereby declare:

1. That my residence and citizenship are of record in this application as stated in my declaration as inventor made under 37 C.F.R.§1.63 and that I am employed by Nares AB of Akarp, Sweden, the assignee of the application.

2. That I am familiar with the contents of the above-identified application and the research effort underlying this application, and that I have read and am familiar with the Official Action of February 21, 2008.

3. That the microemulsions of the present invention are "reversed phase" as opposed to "normal" type.

4. That the phase structures available to lipids depend upon their chemical structure and resultant intrinsic properties, such as spontaneous curvature.

5. That the property of spontaneous curvature is used in the art to predict certain properties of a lipid formulation, such as a resultant phase structure.

6. Lipids with negative spontaneous curvature tend to form "reversed phase" structures.

7. The components used in the compositions of our invention have negative spontaneous curvature.

8. The lipids in the formulations used in the Examples of the subject application (glycerol monooleate and sesame oil), have a negative spontaneous curvature and cannot form the positive curvature required for an oil-in-water microemulsion. All examples are thus necessarily reversed-phase water-in-oil type microemulsions as is evident to one skilled in the art.

9. Based upon my experience with microemulsions I believe that the advantages of reversed phase microemulsions include retention of their structure on mixing with an aqueous solution which conveys the ability to form a barrier layer. An important issue to note in the context of non-obviousness is the definition of the compositions as presently claimed. In particular the solvent content stated is 10 to 55% by weight of the composition and corresponds to the proportion of solvent illustrated in the Examples of the application as filed. This relatively low proportion of solvent will result in *reversed phase* microemulsions rather than *normal phase*.

10. The lipids in the formulations, glycerol monooleate and sesame oil, do not either alone or in combination possess the intrinsic spontaneous curvature required to form normal phase structures. Neither do they have solubilities in aqueous fluids allowing them to form the curvature required to generate phase-separated normal structures. It follows that both phase behaviour and solubility are collective properties of the mixture. Thus the structure applied in the current invention will be maintained in biological fluids for the time periods relevant to the use of this invention, as will be evident to one skilled in the art.

11. In view of the above, it should be clear to one skilled in the art that the invention applies to reversed microemulsions. This is confirmed in the attached articles, "Self-assembly of polar food lipids", M. E. Leser, L. Sagalowicz, M. Michel and H. J. Watzke, Advances in Colloid and Interface Science, Vol. 123 (2006), pp 125-136, and "Monoglyceride self-assembly structures as delivery vehicles", L. Sagalowicz, M. E. Leser, H. J. Watzke and M. Michel, Trends in Food Science and Technology, Vol. 17 (2006), pp. 204-214. These review articles contain discussions of similar systems.

I declare further that all statements made herein of my/our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 18 August 2008

Per Wollmer